

cription and the species as here understood (notably corolla length). It is desirable that close search should be made for this genus in Hildebrandt's original locality." He designates the James & Thrupp collection as a "neotype".

Collectors describe the plant as 1 meter tall, with white or cream-colored corollas, growing in grassy places on mountains among Buxus hildebrandtii Baill., on stony sandstone slopes, and at the edge of Juniperus forests, at altitudes of 1290 to 1950 m.

ADDITIONAL NOTES ON THE GENUS CORNUTIA. I

Harold N. Moldenke

Since the publication in 1936 of my monograph of this genus much information of supplementary nature has come to light and many additional specimens have been studied. The present paper will put on record this additional material and will be followed by additional papers in the series. Full explanation of the abbreviations employed herein for the names of the 255 herbaria whose material was examined, in whole or in part, will be found in *Phytologia* 5: 154--159 (1955), 6: 242 (1958), and 7: 91--92 (1959), 123--124 (1960), and 293 (1960).

CORNUTIA Plum.

Additional synonymy: Kornutia Adans., *Fam. Pl.* 2: 12. 1763. Cormutia L. ex Reichenb., *Conspect. Reg. Veg.* 1: 117. 1828. Cornutea L. ex Dumort., *Analys. Fam. Pl.* 22. 1829. Cornutia Gaertn. ex Moldenke, *Prelim. Alph. List Invalid Names* 23, in syn. 1940.

Literature: Plum., *Nov. Pl. Amer. Gen.* 32, pl. 17. 1703; Vaill., *Hist. Acad. Roy. Sci. (Gall.)* 1722: 201 & 273. 1724; L., *Gen. Pl.*, ed. 1, 366. 1737; L., *Hort. Cliff.* 319. 1739; L., *Fl. Zeyl.*, ed. 1, 195 (1747) and ed. 2, 195. 1748; L., *Sp. Pl.*, ed. 1, 628. 1753; L., *Gen. Pl.*, ed. 5, 276. 1754; Plum., *Pl. Amer.*, ed. Burm., pl. 106, fig. 1. 1757; Adans., *Fam. Pl.* 2: 12 & 199. 1763; L., *Gen. Pl.*, ed. 6, 316. 1764; Burm. f., *Fl. Ind.* 132, pl. 41, fig. 1. 1768; Medic., *Beobacht.* 112. 1783; Lam., *Encycl. Méth.* 1: 54. 1783; Ait., *Hort. Kew.* 2: 353. 1789; Lour., *Fl. Cochinch.*, ed. 1, 2: 387. 1790; Neck., *Elem. Bot.* 1: 328--358. 1790; Jacq., *Hort. Schönbr.* 1: 60, pl. 114. 1797; Lam., *Tabl. Encycl. Méth.* 3: pl. 541. 1797; Willd., *Sp. Pl.* 3: 322. 1800; Gaertn. f. in Gaertn., *Fruct. & Sem. Pl.* 3: 172, pl. 213. 1805; Mirb., *Hist. Nat. Pl.*, ed. 3, 15: 213. 1805; Pers., *Syn. Pl.* 2: 143. 1806; Bot. Zeit. Regensb. 5: 321--330. 1806; Gaertn. f., *Fruct.* 3: pl. 213. 1807; Tratt., *Archiv Gewächsk.* 1: 14 & 55, pl. 87. 1812; Tratt., *Ausg. Taf. Arch.* 1: 9. 1813; Tratt., *Archiv Gewächsk.* 2: 144. 1814; H.B. K., *Nov. Gen. & Sp. Pl.* 2: 247--248. 1818; Roem. & Schult., *Syst.*

Veg. 3: 98. 1818; Steud., Nom. Bot., ed. 1, 228 & 414. 1821; G. Savi, Fl. Ital. 3: pl. 88. 1824; Sims in Curtis, Bot. Mag. 53: pl. 2611. 1825; Spreng., Syst. Veg. 1: 39. 1825; Mordant de Launay, Herb. Amat. 8: pl. 505. 1827; Edwards, Bot. Reg. 14: pl. 1204. 1828; Reichenb., Conspect. Reg. Veg. 1: 117, 1828; Dumort., Analys. Fam. Pl. 22 & 87. 1829; Schlecht. & Cham., Linnaea 5: 97. 1830; A. Dietr. in Willd., Sp. Pl. 1: 252—253. 1831; Wall., Numer. List 87, no. 1834. 1831; Géel, Sert. Bot. cl. 14. 1832; Wall., Numer. List 216, no. 6319. 1832; Reichenb., Fl. Exot. 4: pl. 234. 1835; Drapiez, Herb. Amat. Fl. 8: pl. 538. 1835; Steud., Nom. Bot., ed. 2, 1: 422 & 776. 1840; Walp., Repert. 4: 80. 1844; Poepp. & Endl., Nov. Gen. & Sp. Pl. 3: 63, pl. 269. 1845; Schau. in A. DC., Prodr. 11: 630 & 681—682. 1847; Griseb., Abhand. König. Gesell. Wissen. Götting. 7: 257. 1857; Turcz., Bull. Soc. Imp. Nat. Mosc. 36 (2): 220. 1863; Bocq., Adansonia 3: [Rev. Verbenac.] 137, pl. 12. 1863; Aschers., Bot. Zeit. 21: 53. 1863; Aschers., Fl. Brandenburg. 728—729. 1864; Miq., Prolus. Fl. Jap. 317. 1866—1867; Miq., Bijdr. Fl. Jap. 300—301. 1869—1871; Benth. in Benth. & Hook. f., Gen. Pl. 2 (2): 1153. 1876; Matsum., Cat. 203. 1886; Engl. in Engl. & Prantl, Nat. Pflanzenfam. 2 (5): 40. 1888; Sessé & Moc., La Naturaleza, ser. 2, 1: app. 103. 1889; Kuntze, Rev. Gen. Pl. 2: 506. 1891; Jacks., Ind. Kew. 1: 59, 386, 619, & 1176. 1893; Fawcett, Prov. List Indig. Nat. Fl. Pl. Jamaic. 30. 1893; Briq. in Engl. & Prantl, Nat. Pflanzenfam. 4 (3a): 169. 1894; Trimen, Handb. Fl. Ceylon 3: 352—353. 1895; Millsp., Field Mus. Publ. Bot. 1: 316. 1896; Voss, Vilmorin's Blumeng. no. 3405. 1896; Aschers. in Aschers. & Graebn., Fl. Nordost. Deutsch. Flachl. 183. 1898; Urb., Symb. Ant. 1: 395. 1899; Mak., Bot. Mag. Tokyo 16: 173. 1902; Mak., Fl. Jap. 2: 81. 1902; Thiselet.—Dyer, Ind. Kew. Suppl. 2: 48. 1904; Aschers. & Graebn., Syn. Mitteleur. Fl. 3: 54—55. 1905; Matsum., Ind. Bot. Jap. 2 (1): 199—200. 1905; J. D. Sm., Bot. Gaz. 40: 10. 1905; Hayek in Engl., Bot. Jahrb. 42: 172. 1908; Prain, Ind. Kew. Suppl. 3: 48. 1908; Gerth van Wijk, Dict. Plantnames 1: 372—373. 1911; Nakai, Journ. Coll. Sci. Imp. Univ. Tokyo 31: 251. 1911; Prain, Ind. Kew. Suppl. 4: 56. 1913; L. H. Bailey, Stsnd. Cycl. Hort. 1604—1605. 1915; Koidz., Bot. Mag. Tokyo 30: 326. 1916; Gerth van Wijk, Dict. Plantnames 2: 21, 176, 178, & 185. 1916; Urb. in Fedde, Repert. Beih. 5: 60. 1920; E. D. Merr., Philip. Journ. Sci. Bot. 19: 377. 1921; L. H. Bailey, Gent. Herb. 1: 133. 1923; Britton & P. Wils., Scient. Surv. Porto Rico 6: 148—149. 1925; Salvador Minist. Instrucc. Publ., Fl. Salvador. 1: pl. 82. 1926; Seymour, Host Ind. Fungi N. Am. 588—589. 1929; Hill, Ind. Kew. Suppl. 7: 56. 1929; Nakai, Bot. Mag. Tokyo 44: 26—28 & 513—514. 1930; Stapf, Ind. Lond. 2: 301 (1930) and 3: 443. 1930; L. H. Bailey, Gent. Herb. 2: 132—141. 1930; Stearn, Gard. Chron. 90: 27, 48, & 89. 1931; L. H. Bailey, Gent. Herb. 2: 438. 1932; Miyabe & Kudo, Journ. Fac. Agric. Sapporo 26: 315. 1932; Junell, Symb. Bot. Upsal. 4: 90—91, fig. 137—139. 1934; Moldenke, Brittonia 1: 471. 1934; Honda, Journ. Jap. Bot. 11: 572. 1935; Maekawa, Journ. Jap. Bot. 11: 245 & 687—689. 1935; Honda, Bot. Mag. Tokyo 49: 696. 1935; Cat. Quinta Perez Estr. San

Pedro Sula Suppl. (mss.). 1935; Moldenke in Fedde, Repert. 40: 118 & 153--205. 1936; Moldenke, Chron. Bot. 3: 311. 1937; Lundell, Carnegie Inst. Wash. Bull. 478: 75, 111, 113, 138, & 183. 1937; Standl., Field Mus. Publ. Bot. 18: 1004--1005. 1938; Moldenke, Lilloa 4: 332. 1939; Moldenke, Geogr. Distrib. Avicenn. 1, 5--8, 10, 11, 14--20, 22, 23, 26, 38, & 39. 1939; Moldenke in Fedde, Repert. 46: 201. 1939; Moldenke, Alph. List Common Names 1, 3, 5, 6, 10--12, 15, 18, 19, 21--25, 27, 31, 33, & 34. 1939; Moldenke, Carnegie Inst. Wash. Publ. 522: 149, 203--207, & 219--223. 1940; Yunker, Field Mus. Publ. Bot. 9: 329. 1940; Moldenke, Prelim. Alph. List Invalid Names 1, 4, 10, 14, 23, 24, 27, & 28. 1940; Moldenke, Suppl. List Common Names 6, 13, & 16. 1940; Worsdell, Ind. Lond. Suppl. 1: 256 & 487--488. 1941; Calderón & Standl., Fl. Salvad., ed. 2, 237. 1941; Steere, Contrib. Univ. Mich. Herb. 8: 61. 1942; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 16, 19--23, 25--29, 31, 33--36, 73, & 92. 1942; Moldenke, Alph. List Invalid Names 1, 4, 8, 11, 22, 26, & 27. 1942; Niemeyer & Stelfeld, Arquiv. Mus. Paran. 3: 8. 1943; Moldenke, Phytologia 2: 102. 1944; Moldenke, Castanea 10: 41 & 45. 1945; Reko, Bol. Soc. Bot. Mex. 4: 35. 1946; Menninger, 1947 Cat. Flow. Trees 45. 1946; Moldenke, Alph. List Cit. 1: 2, 4, 6--10, 21, 30, 36, 37, 39, 40, 42, 50--53, 57, 58, 61, 67, 68, 71, 75--77, 88, 89, 93, 101, 106, 113--116, 118, 122, 123, 131--136, 148, 163, 166, 168, 170, 172--174, 177--180, 182, 184, 189, 193, 196, 201, 208, 209, 216, 218, 221, 222, 227, 231, 232, 234, 241, 243, 247, 249, 251--253, 258, 259, 262, 265, 267, 268, 274--276, 278, 299, 301--303, 308, 312--314, 319--321, 324, & 325. 1946; Svenson, Am. Journ. Bot. 33: 419 & 480. 1946; J. S. Beard, Journ. N. Y. Bot. Gard. 47: 239. 1946; Moldenke, Phytologia 2: 131. 1946; Moldenke, Alph. List Invalid Names Suppl. 1: 8, 11, 16, & 19. 1947; E. J. Salisb., Ind. Kew. Suppl. 10: 61 & 114. 1947; H. N. & A. L. Moldenke, Pl. Life 2: 16, 18, 20, 21, 23, 24, 32, 54, 77, & 84. 1948; Moldenke, Alph. List Cit. 2: 327, 329--336, 338--347, 350--352, 359, 389, 390, 401--403, 408, 411, 415, 419, 422, 425--429, 433--437, 443, 459, 481, 482, 484--489, 491, 498, 499, 501--503, 528, 531, 536, 539, 544, 549, 550, 553, 557, 561, 563--566, 569, 570, 573, 576, 577, 587, 588, 593, 600, 603, 608, 610, 611, 615, 616, 618, 620, 625, 640, 642, 643, 647, 649, 650, & 652 (1948), 3: 655, 658, 659, 663, 664, 666--668, 676, 677, 679, 687, 695, 697, 705, 706, 708, 709, 713--717, 725, 726, 731, 736, 740, 741, 745, 753--755, 757, 758, 768, 775--777, 779, 780, 801, 802, 805, 808--810, 817--819, 821--823, 825--827, 834, 835, 839, 841, 842, 844, 848, 852, 853, 857, 867, 868, 877, 887, 888, 891, 894, 895, 898, 900, 902, 906, 912, 916, 918, 919, 925, 926, 928--930, 932, 934, 936, 937, 939--941, 944, 945, 947--950, 959, 960, 964, 965, 969, 971--974, & 978 (1949), and 4: 981--983, 986, 988, 993, 999, 1000, 1001, 1005--1009, 1012, 1013, 1016, 1017, 1020--1026, 1029--1031, 1033--1040, 1042, 1043, 1045--1053, 1055, 1059, 1061--1067, 1069, 1070, 1073, 1074, 1076, 1079, 1080, 1082, 1094, 1097, 1098, 1100, 1105, 1109, 1125, 1131, 1133, 1134, 1138, 1141, 1144--1146, 1151, 1152, 1186, 1187, 1207, 1221, 1237, 1241, 1246, 1254, & 1304. 1949; Little, Carib. Forester 9: 221. 1949; W. L. Phillips, Cat. Pl.

Fairchild Trop. Gard. 18. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 29, 35-40, 43, 46, 47, 49, 53-56, 59, 63, 69, 72, 76, 160, & 184. 1949; H. N. & A. L. Moldenke, Anal. Inst. Biol. Mex. 20: 6. 1949; Matuda, Am. Midl. Nat. 44: 576. 1950; Menninger, 1950-1951 Offer 300 Diff. Flow. Trop. Trees [1]. 1950; F. A. Barkley, Determinac. Ejemp. Herb. Fac. Nac. Agron. Medellin 2 (1): 14. 1950; Roig, Dicc. Bot. 1: 849 & 2: 1012. 1953; Moldenke, Journ. Calif. Hort. Soc. 15: 86. 1954; Moldenke, Mem. N. Y. Bot. Gard. 9: 176. 1955; Moldenke in Humbert, Fl. Madag. 174: 62 & 269. 1956; Alain in León & Alain, Fl. Cuba 4: 280 & 313-314, fig. 135. 1957; Moldenke, Résumé 35, 41, 43-49, 51, 55, 56, 58, 60, 61, 66, 70, 77-79, 82, 88, 217, 218, 228, 232, 242, 248, 275, 276, 299-302, 389, 409, 423, 425, & 454. 1959; Moldenke, Résumé Suppl. 1: 3 & 4. 1959; Menninger, 1960 Price List Flow. Trees [3]. 1960.

It is of interest to note that Bentham in 1876 recognized six species in this genus; Briquet in 1894 reduced this to 4 or 5. We now recognize 25 species, varieties, and forms in the genus. Reichenbach, in the reference cited above (1828), lists "Cornutia L." as a valid genus -- with Hosta Jacq. as a synonym -- in the family Labiatae [= Lamiaceae], section Verbeneae. Jacquin's genus Hosta was still recognized as a valid genus, distinct from Cornutia, by Steudel in 1821. Cornutioides L., Fl. Zeyl. 195 (1747), Midi Herm., and Sambucus Burm. [not Sambucus Tourn., 1753] are given by Adanson, Fam. Pl. 2: 199, in syn. (1763) and by me in my Alph. List Invalid Names Suppl. 1: 8, 16, & 19 (1947) as synonyms of Cornutia Plum. According to Trimen, Handb. Fl. Ceylon 3: 352-353 (1895), however, they are synonyms of Premna serratifolia L. [= P. obtusifolia R. Br.]. Jackson, in Ind. Kew. 1: 619 (1893), lists Cornutioides L. as a "gen. dub."

Standley states that the members of the genus Cornutia are shrubs or small trees with brittle branches. The gynoecium morphology is discussed by Junell in the reference given above (1934), where he points out certain resemblances with that of the genus Premna L.

Common names for members of the genus as a whole are given in French as "agnantes" by Mirbel, "agnanthe" by Gerth van Wijk, and "cornutie" by Necker. In English the name is "cutletwood".

The Macbride photos 20351, widely distributed as Cornutia brasiliensis Mart. is actually Arrabidaea corchorioides (Cham.) P. DC. in the Bignoniaceae.

In the Linnean Herbarium at London, under genus 784, Cornutia, specimen number "1" is labeled "pyramidata" in Linnaeus' own handwriting and IS what we call C. pyramidata L. today. The actual type of the species, however, is supposed to be a specimen in the Hortus Cliffortianus herbarium, page 319, now preserved in the British Museum (Natural History), but is not there. A note states that it was incorporated in the general herbarium of that museum, where it is also now not to be found. I feel, therefore, that this

sheet in the Linnean Herbarium may well be designated as the logotype. Specimen number "2" is unnamed, but bears on the top of the sheet the notation "CLERODENDRUM" [Mr. Savage states that this style of generic name on the top of the sheet was a very old one of Linnaeus, later discarded by him] and "a India". The specimen is plainly what we now call Clerodendrum incisum var. macrosiphon (Hook. f.) C. B. Clarke. Jackson says that the sheet is annotated "Br" [meaning Patrick Browne] and that the "India" means "India [occid.]". It seems to me that the initial is rather "D" and may stand for Dalman, as Jackson himself interprets a similar scrawl on the tenth specimen under Vitex ["V. pinnata"] from India.

Several corrections need to be made in the text of my monograph published in Fedde, Repert. 40: 153—205 (1936). On page 155 the statement should read "pistil mostly included"; on page 157 the abaxial corolla-lip is "obovate-, broadly elliptic-, ovate-, or oblong-lingulate"; on page 199 the date given for Miq., Bijdr. Fl. Jap. 304 should be "1869". In the key on pages 159—161, delete lines 1, 5, and 5a. For line 1 substitute the following:

1. Calyx deeply lobed.

1'. Leaf-blades thin-textured, appressed-puberulent beneath; French Guiana.....1. C. pubescens.

1'a. Leaf-blades thick-textured, tomentellous beneath; Puerto Rico.....9. C. obovata.

For lines 16 and 16a substitute the following:

16. Tomentum on branchlets and rachis matted; South American.

16'. Petioles 4.5--5 cm. long; leaf-blades 27--28 cm. long and 9.6--10.1 cm. wide; Brazil.....3. C. australis.

16'a. Petioles 1--2 cm. long; leaf-blades 8--15 cm. long and 3--8.5 cm. wide; Ecuador. 3a. C. australis var. occidentalis.

16a. Tomentum on branchlets and rachis spreading; Mexican & Central American.

From line 22 delete "6. C. latifolia" and insert the following:

23. Corolla blue or bluish-purple.....6. C. latifolia.

23a. Corolla white.....6a. C. latifolia f. alba.

To the list of Excluded Species make the following additions and corrections:

Cornutia brasiliensis Miers ex Turcz., Bull. Soc. Imp. Nat. Mosc. 36 (2): 220. 1863 = Arrabidaea corchorioides (Cham.) P. DC., Bignoniaceae.

Cornutia corymbosa Burm. f., Fl. Ind. 132. 1768 = Premna obtusifolia R. Br.

Cornutia cymosa Donn. Sm., Bot. Gaz. 40: 10. 1905 = Cordia cymosa (Donn. Sm.) Standl., Ehretiaceae.

Hosta latifolia (Miq.) Matsum., Ind. Pl. Jap. 2 (1): 200. 1905 = H. ventricosa (Salisb.) Stearn, Convallariaceae.

Hosta miquelii Moldenke in Fedde, Repert. 40: 198. 1936 = H. ventricosa (Salisb.) Stearn, Convallariaceae.

CORNUTIA AUSTRALIS Moldenke

Literature: Moldenke in Fedde, Repert. 40: 161, 171--173, & 201. 1936; Moldenke, Geogr. Distrib. Avicenn. 26. 1939; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 36 & 92. 1942; E. J. Salisb., Ind. Kew. Suppl. 10: 61. 1947; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 76 & 184. 1949; Moldenke, Résumé 88 & 454. 1959.

The Widgren specimen cited below was originally identified by the collector as Aegiphila acutangula Widgren.

Additional citations: BRAZIL: Minas Gerais: Widgren s.n. (S).

CORNUTIA AUSTRALIS var. OCCIDENTALIS Moldenke, Castanea 10: 45. 1945.

Literature: Moldenke, Castanea 10: 41 & 45. 1945; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 69 & 184. 1949; Little, Carib. Forester 9: 221. 1949; Moldenke, Résumé 79 & 454. 1959.

This variety differs from the typical form of the species in having the petioles 1--2 cm. long and the leaf-blades 8--15 cm. long and 3--8.5 cm. wide.

The type of the variety was collected by Elbert Luther Little, Jr. (no. 6581) in a pasture at the base of a hill 7 km. west of Guayaquil, Ecuador, on June 13, 1943, and is deposited in the United States National Herbarium at Washington.

Citations: ECUADOR: Guayas: E. L. Little 6581 [U. S. Forest Serv. 98531] (W--1878637--type).

CORNUTIA COERULEA (Jacq.) Moldenke

Additional synonymy: Hosta caerulea Jacq. apud Jacks., Ind. Kew. 1: 1176, in syn. 1893.

Literature: L., Sp. Pl., ed. 1, 628. 1753; Ait., Hort. Kew. 2: 353. 1789; Jacq., Hort. Schönbr. 1: 60, pl. 114. 1797; Willd., Sp. Pl. 3: 322. 1800; Pers., Syn. Pl. 2: 143. 1806; Bot. Zeit. Regensb. 5: 321--330. 1806; Gaertn. f., Fruct. 3: pl. 213. 1807; Tratt., Archiv Gewächsk. 1: 14, pl. 87. 1812; Tratt., Ausg. Taf. Arch. 1: 9. 1813; Steud., Nom. Bot., ed. 1, 228 & 414. 1821; G. Savi, Fl. Ital. 3: pl. 88. 1824; Sims in Curtis, Bot. Mag. 53: pl. 2611. 1825; Edwards, Bot. Reg. 14: pl. 1204. 1828; Géel, Sert. Bot. cl. 14. 1832; Reichenb., Fl. Exot. 4: pl. 234. 1835; Drapiez, Herb. Amat. Fl. 8: pl. 538. 1835; Steud., Nom. Bot., ed. 2, 1: 422 & 776. 1840; Kuntze, Rev. Gen. Pl. 2: 506. 1891; Jacks., Ind. Kew. 1: 1176. 1893; Fawcett, Prov. List Indig. Nat. Fl. Pl. Jamaic. 30. 1893; Gerth van Wijk, Dict. Plantnames 1: 372--373 (1911) and 2: 21, 176, 178, & 185. 1916; Stapf, Ind. Lond. 2: 301 (1930) and 3: 443. 1930; Moldenke in Fedde, Repert. 40: 159, 189--191, 200, 202, & 203. 1936; Moldenke, Geogr. Distrib. Avicenn. 6 & 38. 1939; Moldenke, Prelim. Alph. List Invalid Names 23, 24, 27, & 28. 1940; Moldenke, Alph. List Invalid Names 22, 26, & 27. 1942; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 25, 73, & 92. 1942; E. J. Salisb., Ind. Kew. Suppl. 10: 61. 1947; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 46, 160, & 184. 1949; Moldenke, Résumé 55, 217, 276,

299, 300, & 454. 1959.

Illustrations: Jacq., Hort. Schönbr. 1: 60, pl. 114 (in color). 1797; Gaertn. f., Fruct. 3: pl. 213. 1807; Tratt., Archiv Gewächsk. 1: pl. 87. 1812; Tratt., Ausg. Taf. Arch. 1: 9 (in color). 1813; G. Savi, Fl. Ital. 3: pl. 88. 1824; Sims in Curtis, Bot. Mag. 53: pl. 2611 (in color). 1825; Edwards, Bot. Reg. 14: pl. 1204 (in color). 1828; G&e1l, Sert. Bot. cl. 14. 1832; Reichenb., Fl. Exot. 4: pl. 234 (in color). 1835; Drapiez, Herb. Amat. Fl. 8: pl. 538 (in color). 1835.

The leaf-blades of this plant are actually membranous, not "chartaceous" as stated by me on page 189 of my monograph of the genus (1936). Drapiez, in the reference cited above (1835), reduces C. punctata Willd. to synonymy under C. pyramidata L., but this disposition is erroneous. Gerth van Wijk lists five French common names under C. pyramidata which he says may actually apply rather to "C. punctata". Trattinick calls it the "punctirte Cornutia".

Additional citations: WEST INDIES: Island undesignated: Herb. Adanson s.n. (P). CULTIVATED: Austria: Herb. Jacquin f. s.n. [Macbride photos 34306] (F--976286--photo of cotype, Kr--photo of cotype, N--photo of cotype). France: Collector undesignated 58 [Herb. Jussieu 5078] (P). Germany: Herb. Kummer s.n. (Mu--1451). LOCALITY OF COLLECTION UNDETERMINED: Collector undesignated s.n. (Dc); Herb. Kummer s.n. (Mu--1453); Herb. Lamarck s.n. (P); Herb. Mus. Bot. Lund. s.n. (Lu). MOUNTED ILLUSTRATIONS: color plate XIV.C² (Br).

CORNUTIA GRANDIFOLIA (Schlecht. & Cham.) Schau.

Additional synonymy: Hosta grandiflora Schlecht. ex Steud., Nom. Bot., ed. 2, 1: 422 & 776, in syn. 1840. Cornutia grandiflora Steud., Nom. Bot., ed. 2, 1: 422. 1840. Callicarpa dentata Sessé & Moc. ex Moldenke, Prelim. Alph. List Invalid Names 10, in syn. 1940. Cornutia grandiflora (Cham. & Schlecht.) Schau. ex Moldenke, Prelim. Alph. List Invalid Names 23, in syn. 1940. Cornutia grandiflora Schau. ex Moldenke, Prelim. Alph. List Invalid Names 23, in syn. 1940. Hostia grandifolia Cham. & Schlecht. ex Moldenke, Alph. List Invalid Names Suppl. 1: 11, in syn. 1947.

Literature: Roem. & Schult., Syst. Veg. 3: 98. 1818; Schlecht. & Cham., Linnaea 5: 97. 1830; A. Dietr., Sp. Pl. 1: 252. 1831; Wall., Numer. List 216, no. 6319. 1832; Steud., Nom. Bot., ed. 2, 1: 422 & 776. 1840; Schau. in A. DC., Prodr. 11: 682. 1847; Kuntze, Rev. Gen. Pl. 2: 506. 1891; Jacks., Ind. Kew. 1: 386. 1893; Seymour, Host Ind. Fungi N. Am. 588--589. 1929; Cat. Quinta Perez Estr. San Pedro Sula [Honduras] suppl. [mss.] 1935; Moldenke in Fedde, Repert. 40: 118, 161, 163--167, & 200--205. 1936; Standl., Field Mus. Publ. Bot. 18: 1004. 1938; Moldenke, Alph. List Common Names 3, 10, 23, & 34. 1939; Moldenke, Geogr. Distrib. Avicenn. 14--18. 1939; Moldenke, Prelim. Alph. List Invalid

Names 10, 23, & 27. 1940; Yuncker, Field Mus. Publ. 9: 329. 1940; Moldenke, Carnegie Inst. Wash. Publ. 522: 204. 1940; Calderón & Standl., Fl. Salvad., ed. 2, 237. 1941; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 16, 19, 21-23, 73, & 92. 1942; Moldenke, Alph. List Invalid Names 8, 22, & 26. 1942; Moldenke, Phytologia 2: 102. 1944; Menninger, 1947 Cat. Flow. Trees 45. 1946; Moldenke, Alph. List Invalid Names Suppl. 1: 11. 1947; W. L. Phillips, Cat. Pl. Fairchild Trop. Gard. 18. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 29, 35-40, 160, & 184. 1949; H. N. & A. L. Moldenke, Anal. Inst. Biol. Mex. 20: 6. 1949; Menninger, 1950-1951 Offer. 300 Diff. Flow. Trop. Trees [1]. 1950; Matuda, Am. Midl. Nat. 44: 576. 1950; Moldenke, Résumé 35, 41, 43-46, 48, 217, 242, 275, 276, 299, 301, & 454. 1959.

The species is often described as a medium-sized or large shrub or small tree, the stems 4-angled, and the corolla lavender, lavender-violet, or violet, blooming also in February and April, fruiting already in June, found at altitudes sometimes as low as 30 meters. Standley records the common name "pavilla", and says that in Costa Rica the species is frequent in thickets and forests of the central region, ascending to 1950 meters altitude, in the region of San Ramon, and in the Atlantic "tierra caliente". He describes it as a shrub or tree 3-9 meters tall, the trunk sometimes to 45 cm. in diameter, the bark rugose, corky, and creamy-gray or pale-brown, the branchlets densely villous-tomentose with spreading hairs, the leaves long-petiolate, their blades elliptic to broadly ovate, densely short-villous beneath, the inflorescence in thyrsoid panicles, the corolla bluish-violet, about 8 mm. long, and the fruits densely pilose. He says "The tree is a showy and handsome one when decorated with the abundant, large panicles of bright-colored flowers".

It has been found by collectors also in thickets, wet open thickets, pastures, secondary forests, foothills, and along railroad tracks. Another vernacular name recorded for it is "zapalope", and it has been confused by collectors with Cordia sp. The specific name is sometimes upper-cased for no valid reason. Menninger calls it "cornutia" and describes it as a "Costa Rican evergreen shrub or small tree of Verbena family bearing quantities of small blue flowers, often showy." He charges \$1 for a 1-2-inch plant, \$3 for a 3-4-foot specimen. Roig reports the wood as useful in Cuba, where the plant is cultivated.

The name, Callicarpa dentata Pav., published as though new in synonymy by me on page 163 of my monograph (June 30, 1936), was actually first published by me on page 118 of the same volume on March 31 of that year. The Index Kewensis reference, also on page 163, should be 1893, not "1895". The Hoffmann 117 and 517 cited on page 167 as from "Province undetermined" are actually from the province of San José, Costa Rica, as is also Pittier 237 bis. Stork 508 is from Limón, and Tonduz s.n. [Tucurrique, Las Vueltas] is from Cartago, Costa Rica. The Lévy 1177 collection is from Rivas, Nicaragua, according to a letter received by me from

the Nicaraguan Embassy in Washington, dated September 12, 1945. The Liebmann 11306 cited on page 166 from "State undetermined" is probably from the state of Oaxaca, Mexico, according to my friend and colleague, Dr. M. Martinez.

Additional citations: MEXICO: Chiapas: Matuda 1652 (Mh, M1, M1, N). Oaxaca: Martinez & Calderón 15 (Me); R. E. Schultes 783 (Oa--13589). Vera Cruz: Bourgeau s.n. [Orizaba] (P, P, P, P); Hahn 228 (P), 271, in part (P), s.n. [Misantla, juin 1866] (P); MacDaniels 837 (F--862844); Plunkett s.n. [Jalapa, July 20, 1932] (La, La); Schiede 81 [Macbride photos 34307] (F--976287--photo of cotype, Kr--photo of cotype, N--photo of cotype, P--cotype); Wawra 1045 (V). State undetermined: Sessé, Mociffo, Castillo, & Maldonado 518 ["294"] (F--850427, Q), 5219 (F--845532). GUATEMALA: Alta Verapaz: H. V. Johnson 895 (La); Türkheim 7935 (Mu--3973), II.400 [Herb. Hort. Thenensis I.4197] (Br, Ed, Ed), s.n. [June 1879] (Vu), s.n. [1906] (Vt). Escuintla: Muenschner 12414 (F--905262). BRITISH HONDURAS: Gentle 1685 (Dp, E--1097743, I, M1, N, S); C. L. Lundell 6577 (Au, F--894358, M1, N, N). HONDURAS: Atlántida: Mallert 2005 (N); Yuncker 4571 (Dp, E--1086972, F--749167), 5141 (Dp); Yuncker, Koepper, & Wagner 8298 (Dp, M1, N, S). Cortés: Hjalmarsson 15 (S), s.n. (S). NICARAGUA: Rivas: Lévy 1177 (P). COSTA RICA: Alajuela: Brenes 4859 [18] (F--853596), 13623 (F--857054). Cartago: Holm & Iltis 113 (N); F. L. Stevens 371 (Ur). Puntarenas: Biolley 954 (Br); Tonduz s.n. [Herb. Inst. Physico-geogr. Nat. Costaric. 9714] (Br, Br). San José: Pittier 237 (Br), 237 bis (Br, Br); Tonduz 7594 (Br). PANAMA: Coclé: Hunter & Allen 537 (E--1121314). CULTIVATED: Cuba: Moldenke & Moldenke 19888 (N). Florida: Menninger s.n. [August 26, 1946] (N). LOCALITY OF COLLECTION UNDETERMINED: Collector undesignated 17 (Q).

CORNUTIA GRANDIFOLIA var. INTERMEDIA Moldenke

Literature: Moldenke in Fedde, Repert. 40: 160, 167--168, & 200--205. 1936; Moldenke, Alph. List Common Names 12, 15, & 22. 1939; Moldenke, Geogr. Distrib. Avicenn. 15, 16, & 18. 1939; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 19, 21--23, & 92. 1942; Moldenke, Phytologia 2: 102. 1944; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 35, 37--40, & 184. 1949; Moldenke, Journ. Calif. Hort. Soc. 15: 86. 1954; Moldenke, Résumé 41, 44--46, 48, 218, & 454. 1959; Menninger, 1960 Price List Flow. Trees [3]. 1960.

The variety is described by collectors as a shrub or slender tree, 2.5--17 m. tall, the trunk slender, its base to 45 cm. in diameter, sometimes divided at the base into 2 trunks; bark glabrous, cream-gray to pale gray-brown or striated with light-brown, rugose, with a cork-like appearance; wood soft, pale brownish-yellow where cut; stems 4-angled or nearly square; cambium layer nearly white; leaves thickened, lax, soft, velvety or plush-like, the young ones showing a silky sheen of violet-

purple; flowers 12--15 mm. long, sometimes in large panicles, blooming several times a year; corolla lilac, blue, lavender-violet, or dark-violet, dropping soon after opening.

Smith says "this is a very variable species in form of leaves, stature, size, color of flowers and time of inflorescence or several distinct forms found here.....blooms through long season, thinly distributed species.....in upper limit of tropical zone, Pacific watershed, in shade of forest, clay loam, shallow humus or mold, rather rare at 6500 ft., more common at 4000 to 5000 feet altitude." He says that the "leaf pedicels" [petioles] are tinged violet.

It has been found in bush country, rocky soil in ravines on hillsides, along trails, on hillslopes facing the north edge of forests, and in half-shade with 4 or 5 hours of sunlight daily. Von Hagen records the common name "cucaracho", and found it flowering and fruiting in September. Popenoe found it flowering in August. It has been collected at 600 m. altitude in Panama, 665 m. in Honduras, 1100 m. in Mexico, and 2165 m. in Costa Rica. It has been misidentified in herbaria as the typical form of C. grandifolia, to which the vernacular name recorded above is also applied.

The Tejada 243 cited on page 168 of my monograph (1936) as from "Department undetermined" is actually from Sacatepéquez, Guatemala. The Hartweg 610, also so cited on the same page, is inscribed "Ingenio & Ayarza" on some labels — the former locality is in the department of Amatitlan, and the latter in Santa Rosa, Guatemala. The Paris sheet of this collection is mislabeled "Mexico".

Additional citations: MEXICO: Oaxaca: R. E. Schultes 783 (Oa). GUATEMALA: Amatitlan: Hartweg 610, in part (Lu, P). Escuintla: J. R. Johnston 972 (F--907497); Seler & Seler 2560 (Du--283953, Gg--245903). Santa Rosa: Heyde & Lux 2957 (Mu--1753, Us, Vu). HONDURAS: Copan: Popenoe 796 (Ar--1793). Yoro: Von Hagen & Von Hagen 1053 (F--944355, N). COSTA RICA: Alajuela: Brenes s.n. [May 15, 1902] (F, Ml, N, Or, Pa, Si); A. Smith 166 (F--918664), 4113 (F--905221), A.54 (F--941334, N), H.242 (F--923454), NY.166 (N). San José: M. Valerio 1645 (F--905216). PANAMA: Coclé: P. H. Allen 4222 (E); Hunter & Allen 537 (N). Panamá: C. W. Dodge 10723 (S). CULTIVATED: California: Mathias 2291 (Gg--363925).

CORNUTIA GRANDIFOLIA var. NORMALIS (Kuntze) Moldenke

Literature: Kuntze, Rev. Gen. Pl. 2: 506. 1891; Moldenke in Fedde, Repert. 40: 160, 170--171, & 200--204. 1936; Standl., Field Mus. Publ. Bot. 18: 1004. 1938; Moldenke, Geogr. Distrib. Avicenn. 17 & 18. 1939; Moldenke, Alph. List Common Names 10, 22, & 23. 1939; Moldenke, Prelim. Alph. List Invalid Names 24. 1940; Moldenke, Alph. List Invalid Names 22. 1942; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 22, 23, 73, & 92. 1942; Moldenke, Phytologia 2: 102. 1944; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 39, 40, 160, & 184. 1949; Moldenke,

Résumé 46, 48, 49, 218, 276, & 454. 1959.

This plant is described by collectors as a coarse woody shrub or tree, 2--15 m. tall, with a trunk diameter at breast height of 1/2 inch, the larger stems round, the smaller ones tetragonal in cross-section, the crushed leaves and flowers with a rank aromatic minty odor, the corolla purple, purplish-blue, or bluish-violet. It has been collected on savannas, in open scrub and secondgrowth thickets, clearings, and pastures, and on forested riverbanks, blooming also in February, April, May, and August. It ascends from 20 m. altitude in Panama to 900 m. in Costa Rica. It is reported by Brenes to be cultivated in gardens at Puerto Jiménez, Puntarenas, Costa Rica, introduced there from Chiriquí, Panama. Standley says that it is found in thickets of the "tierra caliente". He also makes the comment that "Like other varieties assigned to this species, this appears to be a form of scant systematic importance." The common names "morcielago", "murcielago", and "murciélagó" have been recorded.

The Tonduz s.n. [Herb. Inst. Physico-geogr. Nat. Costaric. 11507] collection cited on page 171 of my monograph (1936) as from "Province undetermined" is actually from Cartago, Costa Rica.

Additional citations: COSTA RICA: Alajuela: Brenes 13623 [17; 283; 14193] (N). Cartago: F. L. Stevens 385 (Ur); Tonduz 11507 (Mu--3784), s.n. [Herb. Inst. Physico-geogr. Nat. Costaric. 11507] (Br, Br). Guanacaste: Brenes 12329, in part [208] (N). Puntarenas: Cufodontis 203 (V); Holm & Iltis 276 (N); Pittier s. n. [Herb. Inst. Physico-geogr. Nat. Costaric. 11979] (Br, X); Tonduz 4512 (Br, Br). San José: Skutch 2642 (E--1110677, Mi, N, S), 4883 (W--1791322). Province undetermined: Tonduz 237 bis [Piedra Blanca] (X, X, X). PANAMA: Canal Zone: Paul 473 (Mi, N); Seibert 113 (E--1115312); Stern, Chambers, Dwyer, & Ebinger 56 (Z). Chiriquí: P. H. Allen 5034 (E); Wagner s.n. (Mu--1041); Woodson, Allen, & Seibert 412 (N). Coclé: P. H. Allen 1635 (N), 1795 (N); Woodson, Allen, & Seibert 1737 (N, N). Panamá: C. W. Dodge s.n. [Chepo, June 14, 1936] (F--892201); F. L. Stevens 610 (Ur); Woodson, Allen, & Seibert 758 (N, N); Woodson & Schery 1002 (N). Province undetermined: Hayes s.n. (Ed). PEARL ISLANDS: San José Island: C. O. Erlanson 311 (Du--349974, N). Island undetermined: Andersson s.n. [1852] (S, S). CULTIVATED: Costa Rica: Brenes 12329, in part [208; 808] (F--856036).

CORNUTIA GRANDIFOLIA var. PURPUSI Moldenke

Synonymy: Hosta longifolia H.B.K., Nov. Gen. & Sp. Pl. 2: 247. 1818. Hosta longifolia Humb. & Bonpl. ex Steud., Nom. Bot., ed. 1, 414. 1821. Cornutia longifolia (H.B.K.) Spreng., Syst. Veg. 1: 39. 1825. Hosta longifolia Kunth ex Schau. in A. DC., Prodr. 11: 682, in syn. 1847. Hosta longifolia Humb. ex Moldenke, Prelim. Alph. List Invalid Names 28, in syn. 1940. Cornutia pyramidata var. longifolia (H.B.K.) Kuntze, Rev. Gen. Pl. 2: 506.

1891. Cornutia grandifolia var. purpusii Moldenke apud Matuda, Am. Midl. Nat. 44: 576, sphalm. 1950.

Literature: H.B.K., Nov. Gen. & Sp. Pl. 2: 247. 1818; Steud., Nom. Bot., ed. 1, 444. 1821; Spreng., Syst. Veg. 1: 39. 1825; Steud., Nom. Bot., ed. 2, 1: 422 & 776. 1840; Schau. in A. DC., Prodr. 11: 682. 1847; Kuntze, Rev. Gen. Pl. 2: 506. 1891; Jacks., Ind. Kew. 1: 1176. 1893; Moldenke in Fedde, Repert. 40: 161, 169, 195, 196, & 200--204. 1936; Moldenke, Geogr. Distrib. Avicenn. 14. 1939; Moldenke, Prelim. Alph. List Invalid Names 23, 24, & 28. 1940; Moldenke, Suppl. List Invalid Names 11. 1941; Moldenke, Alph. List Invalid Names 22 & 26. 1942; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 16 & 92. 1942; H. N. & A. L. Moldenke, Pl. Life 2: 77. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 29 & 184. 1949; Matuda, Am. Midl. Nat. 44: 576. 1950; Moldenke, Résumé 35, 275, 276, 300, & 454. 1959.

Collectors describe this variety as a tall tree, 15 m. tall, or only shrubby and 2 m. tall, to 45 cm. in diameter. It has been found in woods at an altitude of 1000 m., fruiting in September. The MacDaniels 837 cited below is in fruit, but probably represents this variety.

The type of Hosta longifolia, not seen by me when my monograph was published (1936), has since been examined by me. It proves to be identical with this variety. Therefore the name Cornutia longifolia can now be removed from the list of "species dubiae" and placed in synonymy here.

Additional citations: MEXICO: Chiapas: Matuda 17872 (N, N). Oaxaca: Ghiesbreght s.n. [Oaxaca, 1843] (P). Vera Cruz: Botteri 1091 (B, P); Botteri & Sumichrast 1388 (P); Bourgeau 2504 (Br, Br, P, P, P); Galeotti 757 (Br, Br); Ghiesbreght 7 (P); MacDaniels 837 (Ba); Purpus 4445 (Ed), s.n. [Cosalapa, May 1922] (Du--191879). LOCALITY OF COLLECTION UNDETERMINED: Bonpland s.n. (P).

CORNUTIA GRANDIFOLIA var. QUADRANGULARIS Ørst. & Moldenke

Additional synonymy: Cornutia grandifolia var. quadrangularis (Oerst.) Moldenke apud Standl., Field Mus. Publ. Bot. 18: 1004. 1938.

Literature: Moldenke in Fedde, Repert. 40: 160, 168, 200, & 203. 1936; Standl., Field Mus. Publ. Bot. 18: 1004--1005. 1938; Moldenke, Alph. List Common Names 24. 1939; Moldenke, Geogr. Distrib. Avicenn. 17. 1939; Moldenke, Prelim. Alph. List Invalid Names 24. 1940; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 23 & 92. 1942; Moldenke, Alph. List Invalid Names 22. 1942; Moldenke, Phytologia 2: 102. 1944; E. J. Salisb., Ind. Kew. Suppl. 10: 61. 1947; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 39 & 184. 1949; Moldenke, Résumé 46, 275, 276, & 454. 1959.

CORNUTIA GRANDIFOLIA var. STORKII Moldenke

Literature: Moldenke in Fedde, Repert. 40: 161, 169--170, 200, & 204. 1936; Standl., Field Mus. Publ. Bot. 18: 1005. 1938; Mol-

denke, Geogr. Distrib. Avicenn. 17. 1939; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 23 & 92. 1942; H. N. & A. L. Moldenke, Pl. Life 2: 84. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 39 & 184. 1949; Moldenke, Résumé 46 & 454. 1959.

Standley describes this variety as a shrub or tree, 7 m. or less in height, found at 1680 m. altitude.

CORNUTIA JAMAICENSIS Moldenke

Literature: Moldenke in Fedde, Repert. 40: 160, 191--193, 200, & 202. 1936; Moldenke, Geogr. Distrib. Avicenn. 6. 1939; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 25 & 92. 1942; E. J. Salisbury, Ind. Kew. Suppl. 10: 61. 1947; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 46 & 184. 1949; Moldenke, Résumé 55 & 454. 1959.

Proctor describes this species as a small bushy tree, 5 m. tall, with violet flowers in May, growing on wooded limestone hillsides at altitudes of 2300 to 2500 feet.

Additional citations: JAMAICA: G. R. Proctor 19689 (N).

CORNUTIA LATIFOLIA (H.B.K.) Moldenke

Corrected synonymy: Hosta latifolia H.B.K., Nov. Gen. & Sp. Pl. 2: 248. 1818 [not H. latifolia (Miq.) Matsum., 1905]. Hosta latifolia Humb. & Bonpl. ex Steud., Nom. Bot., ed. 1, 414. 1821.

Literature: H.B.K., Nov. Gen. & Sp. Pl. 2: 248. 1818; Steud., Nom. Bot., ed. 1, 414. 1821; Spreng., Syst. Veg. 1: 39. 1825; Steud., Nom. Bot., ed. 2, 1: 422 & 776. 1840; Jacks., Ind. Kew. 1: 1176. 1893; Millsp., Field Columb. Mus. Publ. Bot. 1: 316. 1896; Matsum., Ind. Pl. Jap. 2 (1): 200. 1905; Moldenke in Fedde, Repert. 40: 161, 179--181, 198, & 200--205. 1936; Lundell, Carnegie Inst. Wash. Publ. 478: 138 & 183. 1937; Moldenke, Alph. List Common Names 19 & 21. 1939; Moldenke, Geogr. Distrib. Avicenn. 14, 15, & 38. 1939; Moldenke, Carnegie Inst. Wash. Publ. 522: 205--206. 1940; Moldenke, Suppl. List Common Names 6 & 13. 1940; Moldenke, Prelim. Alph. List Invalid Names 23 & 28. 1940; Moldenke, Alph. List Invalid Names 22 & 26. 1942; Steere, Contrib. Univ. Mich. Herb. 8: 61. 1942; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 16, 20, 21, 73, & 92. 1942; Moldenke, Phytologia 2: 102. 1944; E. J. Salisbury, Ind. Kew. Suppl. 10: 61. 1947; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 29, 35, 36, 160, & 184. 1949; Moldenke, Résumé 35, 41, 43, 218, 276, 300, & 454. 1959.

This plant is said to be a shrub, with stems to 15 cm. in diameter, found in second growth, in mahogany forests, and, according to the Lundells, "in dooryards and along streets, rare". The corolla is described as purplish or bluish-purple. The species has been collected in flower also in May, and in fruit in July. O'Neill 8747 exhibits dentate leaves exactly like those seen on some specimens of C. pyramidata var. isthmica, but has the large calyxes of C. latifolia. The collector says that it is boiled with oil and honey and used in the treatment of asthma.

The Hosta latifolia (Miq.) Matsum. referred to on page 198 of

my monograph (1936) as H. miquelii Moldenke should actually be reduced, according to Stearn, to H. ventricosa (Salisb.) Stearn. Steudel (1840) places Hosta latifolia H.B.K. in the synonymy of Cornutia pyramidata L.

Additional citations: MEXICO: Chiapas: Matuda 3807 (F--1028148, Mh). Tabasco: Matuda 3398 (F--1028209, Mh, N). Yucatán: Lundell & Lundell 7888 (Du--363078, Mi, Mi, N); Steere 1458 (La, N), s.n. (Me); E. C. Stewart 83 (Mi). BRITISH HONDURAS: Gentle 16 (N), 186 (N); O'Neill 8747 (I, Mi). CULTIVATED: Cameroons: Herb. Bot. Gart. Victoria 67 (B).

CORNUTIA LATIFOLIA f. ALBA Moldenke

Literature: Moldenke, Phytologia 2: 131. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 29 & 184. 1949; Moldenke, Résumé 35 & 454. 1959.

This form differs from the typical form of the species in having white corollas.

The type of the form was collected by William Campbell Steere, without number, in chaparral at Champotón, Campeche, Mexico, in July, 1932, and is deposited in the herbarium of the Instituto Biología at Mexico City.

Citations: MEXICO: Campeche: Steere s.n. [July 1932] (Me--type).

CORNUTIA LILACINA Moldenke

Literature: Moldenke in Fedde, Repert. 40: 160, 181--183, 200, & 201. 1936; Moldenke, Geogr. Distrib. Avicenn. 15 & 16. 1939; Calderón & Standl., Fl. Salvador., ed. 2, 237. 1941; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 20, 21, & 92. 1942; E. J. Salisb., Ind. Kew. Suppl. 10: 61. 1947; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 35, 37, 38, & 184. 1949; Moldenke, Résumé 41, 44, 45, & 454. 1959.

This species is often found misidentified in herbaria as "C. grandifolia Schau." or as C. pyramidata L. Calderón & Standley, in the reference listed above (1941), under the designation of C. pyramidata, list the vernacular name "zapalote" for this plant. Skutch erroneously refers to the fruit as a "berry".

Collectors report that the species is a shrub, about 2.5 m. tall, or a small tree, to 13 m. tall, the trunk to 30 cm. in diameter at breast height; leaves membranous or firmly membranous, malodorous, pungent, dull rich-green above when fresh, pale-green beneath, with grayish-white to dull-rose midribs; corolla purple, with a pale-yellow spot at the base of the lower lip, or lilac-lavender, deeper purple in the center, with 2 buff-yellow spots below the center; fruit purple.

It has been collected in woods, on brushy slopes and brushy hillsides, and in moist thickets between the pine and cloud forests, not frequent, at altitudes of 100 to 1500 m., blooming also in March and September, and fruiting in October.

Additional citations: GUATEMALA: Chiquimula: Steyermark 30338 (F--1056510), 30769 (F--1051030). Quezaltenango: Skutch 1326 (F--

934268, N). San Marcos: Steyermark 37427 (F--1058761). Zacapa: C. C. Deam 6383 (Vt--isotype). HONDURAS: Yoro: J. B. Edwards P.648 (B).

CORNUTIA LILACINA var. *VELUTINA* Moldenke

Literature: Moldenke in Fedde, Repert. 40: 160, 183, 200, & 201. 1936; Moldenke, Geogr. Distrib. Avicenn. 16. 1939; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 21 & 92 (1942) and [ed. 2], 37 & 184. 1949; Moldenke, Résumé 41, 44, & 454. 1959; Moldenke, Résumé Suppl. 1: 3. 1959.

This is said to be a tree 12--20 feet tall, with deep-lavender, blue, deep-violet, or purple flowers, blooming in June, September, and November, growing on wooded slopes at altitudes of 800 to 1175 meters. Material has often been misidentified in herbaria as typical *C. lilacina* Moldenke or as *C. pyramidata* L. Allen describes the plant as "infrequent".

Additional citations: GUATEMALA: Sololá: Steyermark 48047 (N). HONDURAS: Comayagua: J. B. Edwards 0.385 (B--isotype). Morazán: Glassman 1798 (N, Ok, Ur, Ur); P. C. Standley 21618 (N), 22489 (N). EL SALVADOR: Sonsonate: P. H. Allen 7073 (N); Allen & Van Severen 6923 (N).

CORNUTIA MICROCALYCINA Pavon & Moldenke

Additional synonymy: *Cornutia microcalycina* Pavon ex Standl., Field Mus. Publ. Bot. 18: 1005. 1938. *Cornutia grandifolium* Linden ex Moldenke, Suppl. List Invalid Names 3, in syn. 1941.

Literature: Moldenke in Fedde, Repert. 40: 161, 173--175, & 200--205. 1936; Standl., Field Mus. Publ. Bot. 18: 1005. 1938; Moldenke, Geogr. Distrib. Avicenn. 19, 20, 22, & 23. 1939; Moldenke, Prelim. Alph. List Invalid Names 28. 1940; Moldenke, Suppl. List Invalid Names 3. 1941; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 31, 32, 34, & 92. 1942; Moldenke, Alph. List Invalid Names 22 & 26. 1942; E. J. Salisb., Ind. Kew. Suppl. 10: 61. 1947; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 59, 63, 69, 72, & 184. 1949; H. N. & A. L. Moldenke, Anal. Inst. Biol. Mex. 20: 6. 1949; Moldenke, Résumé 66, 70, 79, 82, 275, 300, & 454. 1959.

Collectors describe this species as a shrub, 2.5--6 m. tall, a tree to 20 m. tall, or even as "a vine on tree"; leaves buff gray-green beneath, dark dull-green above, the pubescence composed of buff-yellowish hairs; rachids, calyxes, and corollas purple, or the corollas blue, lavender, lilac, light-lilac, or purple-lilac, sometimes deeper lavender on the lobes; young fruit green.

Standley says "Differing from *C. grandifolia* in having the branches and the rachis of the inflorescence pilose, puberulent, or subglabrate, rather than densely short-pubescent; perhaps only a variety of that species."

It has been found in rich, moist, luxuriant forests, on shady rivulet-shores in forests, in secondgrowth forests, fields, and open pastures, at 975 to 1800 meters altitude, flowering in Feb-

ruary, April, June, August, and October. The vernacular name "nacedero" has been recorded.

Additional citations: PANAMA: Darien: Stern, Chambers, Dwyer, & Ebinger 471 (Z). COLOMBIA: Antioquia: Toro Toro 1323 (Fn). Chocó: A. Fernandez 292 (W--1997958). VENEZUELA: Barinas: Aristeguieta 3255 (N). Lara: Linden 1457 (Cb, F--869561, P). Mérida: Steyermark 56134 (F--1205136, N). ECUADOR: El Oro: Asplund 18155 (S); Steyermark 54236 (N); Wiggins 10924 (N). Guayas: Asplund 5734 (S), 15400 (S); Fagerlind & Wibom 632 (S). PERU: Department undetermined: Pavon s.n. [1827] (P).

CORNUTIA MICROCALYCINA var. ANOMALA Moldenke

Literature: Moldenke in Fedde, Repert. 40: 160, 176, 200, 202, & 203. 1936; Standl., Field Mus. Publ. Bot. 18: 1005. 1938; Moldenke, Geogr. Distrib. Avicenn. 17 & 18. 1939; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 23 & 92 (1942) and [ed. 2], 40 & 184. 1949; Moldenke, Résumé 47, 48, 66, & 454. 1959.

Collectors report the corolla as purple. The plant has been found growing at 800 meters altitude, blossoming in November. Standley says "Differing from the species in having the pubescence of the leaves denser and of long, white, lustrous, multicellular hairs which are appressed on the upper surface and more or less matted beneath." Actually, it differs from the typical form of the species in the pubescence on the upper and lower leaf-surfaces being densely or lightly long-pubescent, -pilose, or -villous with long, white, glistening, multicellular hairs, which are strigosely appressed above and submentose beneath.

Additional citations: COLOMBIA: Caldas: Sneidern 5061 (F--1302017, N). COCOS ISLAND: Pittier s.n. [Herb. Inst. Physico-geogr. Nat. Costaric. 16254] (B); A. Stewart 318 (Gg--31061--isotype).

CORNUTIA MICROCALYCINA var. PULVERULENTA Moldenke

Literature: Moldenke in Fedde, Repert. 40: 155, 161, 175--176, & 200--204. 1936; Moldenke, Geogr. Distrib. Avicenn. 18, 19, & 22. 1939; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 23, 31, 34, & 92. 1942; Moldenke, Castanea 10: 41. 1945; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 40, 59, 69, & 184. 1949; H. N. & A. L. Moldenke, Anal. Inst. Biol. Mex. 20: 6. 1949; Moldenke, Mem. N. Y. Bot. Gard. 9: 176. 1955; Moldenke, Résumé 48, 66, 79, 275, & 454. 1959.

Collectors describe this plant as a coarse much-branched shrub or small tree, 3--12 meters tall; trunk about 10 cm. in diameter at breast height; stems reddish; primary branches often arching; secondary branches erect until too heavy; leaves herbaceous, gray-green or light-green above and paler beneath; flowers very odorous; corolla blue or deep-blue to lilac or light-violet, rarely white; fruit juicy, purple or white; seeds angular, verrucose, nigrescent-purple.

A common name recorded for the plant is "culape". The plant is

said to be common in pastures, forests, rainforests, and open llanos, at altitudes from sea-level to 410 meters.

Dryander 2543 is said by the collector to have white flowers, while Camp E.3681 is said to have had white fruit (but the corolla deep-blue). Possibly these two collections deserve distinct form names. The Sodiho 125/23 from Puente de Chine, cited on page 176 of my monograph (1936) as from "Province undetermined", is probably from Chimborazo, Ecuador. The type of the variety was collected on the playas along the Río Timbiquí, in El Cauca, Colombia.

Additional citations: COLOMBIA: Antioquia: Metcalf & Cuatrecasas 30194 (Ca--687225). El Cauca: F. C. Lehmann 9018 (V--iso-type). Nariño: Dryander 2543 (N), 2582 (Ci). Valle del Cauca: Cuatrecasas 17628 (N). ECUADOR: Esmeraldas: E. L. Little 6291 [U. S. Forest Serv. 96778] (It, N). Guayas: Cañar, Chimborazo, & Bolívar: Camp E.3681 (N). Los Ríos: Asplund 5504 (N, S).

CORNUTIA OBOVATA Urb.

Literature: Urb., Symb. Antil. 1: 395. 1899; Thiselt.-Dyer, Ind. Kew. Suppl. 2: 48. 1904; Moldenke in Fedde, Repert. 40: 160, 188--189, 199, & 204. 1936; Moldenke, Geogr. Distrib. Avicenn. 8. 1939; Moldenke, Alph. List Common Names 23. 1939; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 27 & 92. 1942; Moldenke, Phytologia 2: 102. 1944; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 49 & 184. 1949; Moldenke, Résumé 58 & 454. 1959.

Collectors describe this species as having a trunk 10--20 cm. in diameter at breast height; leaf-blades varying from broadly elliptic to obovate, to 15 cm. long and 11.8 cm. wide; the inflorescences to 30 cm. long and 6 cm. wide.

A flowering collection now being available, the following characters may be added to the specific description: calyx campanulate, about 3.9 mm. long and 4.6 mm. wide, densely appressed-puberulent, its rim deeply 4-lobed, the lobes about 2.5 mm. long, blunt at the apex; corolla hypocrateriform, its tube 6.8--7.3 mm. long, about 2.4 mm. wide at the base, ampliate to 3 mm. at the middle, densely puberulent outside, densely villous among the stamens within, the limb 2-lipped, 4-lobed, appressed-puberulent throughout (except the upper half of the inner surface of the abaxial lobe), the abaxial lobe oblong-quadrate, about 6.8 mm. long and 5.8 mm. wide, venose, crisped, emarginate at the apex, the 3 adaxial lobes triangular-ovate, 3.9--4.4 mm. long, 2.9--5 mm. wide, subacute at the apex; 2 fertile stamens inserted about 5.8 mm. above the base of the corolla-tube, exserted; filaments about 5.8 mm. long, pilose; style about 7.5 mm. long, densely strigose, curvate at the apex; stigma bifid, its branches flattened, widest at the base and tapering gradually to the apex, about 0.5 and 0.7 mm. long respectively; disk glabrous, truncate above; ovary subglobose, about 1.9 mm. long and wide, densely villous with canescent antrorse hairs; fruiting-calyx with the rim entire or rather deeply lobed.

The species has been found in flower and fruit in September.

Holdridge says that it is found in the limestone section of Puer-to Rico, growing by old dwellings, said to be perhaps introduced and "not the same as our 2 native species" [actually, C. pyrami-data L. is the only other native species known from the island]. The common names "nigua" and "palo de nigua" have been recorded for it. Its rather deeply lobed calyx and fruiting-calyx change its position in the key to species as published in my monograph (1936).

Additional citations: PUERTO RICO: L. E. Gregory 10 (N), 154 (N); Sinten 2022 (Cb--isotype, Lu--isotype, Mu--3770--isotype, P--isotype, Vu--isotype).

CORNUTIA ODORATA (Poepp. & Endl.) Poepp.

Literature: Poepp. & Endl., Nov. Gen. & Sp. Pl. 3: 63, pl. 269. 1845; Schau. in A. DC., Prodr. 11: 681. 1847; Jacks., Ind. Kew. 1: 619. 1893; Stapf, Ind. Lond. 3: 443. 1930; Moldenke in Fedde, Repert. 40: 161, 176--178, 200, 202, 203, & 205. 1936; Moldenke, Geogr. Distrib. Avicenn. 22 & 23. 1939; Moldenke, Alph. List Common Names 11 & 32. 1939; Moldenke, Prelim. Alph. List Invalid Names 23, 24, 28, & 52. 1940; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 34, 35, & 92. 1942; Moldenke, Alph. List Invalid Names 22, 26, & 55. 1942; Moldenke, Phytologia 2: 102. 1944; Svenson, Am. Journ. Bot. 33: 419 & 480. 1946; E. J. Salisb., Ind. Kew. Suppl. 10: 61. 1947; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 69, 72, & 184. 1949; Moldenke, Résumé 79, 82, 218, 275, 276, 300, 389, & 454. 1959.

Illustrations: Poepp. & Endl., Nov. Gen. & Sp. Pl. 3: pl. 269. 1845.

Collectors describe this plant as a bush, tall shrub, or tree, 1.5--8 m. tall; leaves strongly and pleasantly aromatic, used in infusions against rheumatic pains; flowers in large panicles, with a strong smell of lavender (Lavandula spica L.); corolla varying from pale-violet, violet, or dark-violet to violet-blue, blue, or lilac-purple. It has been collected in anthesis also in March, April, and September, and has been found in forests, at the edge of woods, in clearings, and along streambanks, from 100 to 650 meters altitude. Additional common names are "tál" and "ulape".

Additional citations: ECUADOR: Esmeraldas: Mexia 8497 (F--1011544, Go, N, S). Guayas: Heilborn 116 (S, S, S, S, S); Sven-son 11455 (J). Los Ríos: Harling 230 (S), 375 (S). Napo-Pastaza: Asplund 8935 (S); Benoist 4738 (P, S); Fagerlind & Wibom 2335 (S), 2335-II (S); Mexia 7131 (N, W--1592024). Oriente: Heinrichs 340 (Mu, N). Province undetermined: Benoist 38 (P). PERU: Loreto: Klug 394 (F--623979), 1478 (N, W--1456405), 2159 (B, S); Poeppig 2448 [826; Macbride photos 7885] (Dc--isotype, Kr--photo of type, N--photo of type, P--isotype, P--isotype); Ll. Williams 8223 (F--623344). San Martín: Klug 4004 (Ca--709754, E--1111166, F--853130, Gg--248407, I, N, S). CULTIVATED: Peru: Ducke s.n. [Herb. Rio de Jan. 22570] (B).

CORNUTIA ODORATA var. CALVESCENS Moldenke

Literature: Moldenke, Brittonia 1: 470--471 & 474. 1934; Moldenke in Fedde, Repert. 40: 161, 179, 200--202, 204, & 205. 1936; Moldenke, Phytologia 1: 234. 1937; Moldenke, Geogr. Distrib. Avicenn. 19. 1939; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 31 & 92 (1942) and [ed. 2], 59 & 184. 1949; Moldenke, Résumé 66 & 454. 1959.

Collectors describe this plant as a tree 6.5 m. tall, with dark-green leaves and blue-purple flowers. It has been collected in the semi-shade of forests, at 800 to 1900 meters altitude, flowering in February and September.

It seems most probable that Aegiphila macrophylla H.B.K. is a synonym of Cornutia odorata var. calvescens. The specimen labeled "Aegiphila macrophylla" from Bonpland's own herbarium at Berlin, mentioned by me on pages 470--471 of my Aegiphila monograph (1934), proves to be this variety. It does not, however, agree in all respects with Kunth's original description.

Additional citations: COLOMBIA: Antioquia: Toro Toro 1280 (Fn). Caldas: Sneidern 5061 (S), 5232 (F--1299865, S), 54321 (N). Magdalena: C. Allen 734 (E--1015222).

CORNUTIA ODORATA var. COLOMBIANA Moldenke

Synonymy: Cornutia odorata var. colombiana Moldenke apud F. A. Barkley, Determinac. Ejemp. Herb. Fac. Nac. Agron. Medellín 2 (1): 14, sphalm. 1950.

Literature: Moldenke in Fedde, Repert. 40: 161, 178--179, & 200--205. 1936; Moldenke, Geogr. Distrib. Avicenn. 19. 1939; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 31 & 92 (1942) and [ed. 2], 59 & 184. 1949; F. A. Barkley, Determinac. Ejemp. Herb. Fac. Nac. Agron. Medellín 2 (1): 14. 1950; Moldenke, Résumé 66 & 454. 1959.

This plant is described by collectors as a coarse herb, 1.8 m. tall, or an aromatic shrub or small tree, 2--8 m. tall; trunk to 5 cm. in diameter at breast height; bark gray, smooth; stems square in cross-section; leaves aromatic; buds greenish-white; inflorescence terminal, large; corolla blue, dark-blue, or very dark-blue to blue-lilac, violet, or purple; fruit purple, conspicuous.

It has been collected in moist soil near rivers, in weedy thickets, in secondgrowth forests, and in brushy secondgrowth vegetation on soil formed of decomposed sedimentary rock, at altitudes of 70 to 2000 meters. It has been collected in anthesis also from March to June and November to January, and in fruit in December. Herbarium specimens have been misidentified as Salmea sp.

Additional citations: COLOMBIA: Antioquia: Scolnik, Araque Molina, & Barkley 19An527 (N). Caldas: Haught 2130 (N); M. Schneider 1032 (S). Chocó: Killip 35496 (W--1772205). Cundinamarca: Cuatrecasas 9372 (W--1795881); García y Barriga 7671 (W--1744962); Haught 6066 (N); Triana 2068 [Macbride photos 34305] (Ed--iso-

type, F--976285--photo of type, Kr--photo of type, N--photo of type, P--isotype). Huila: Fosberg 19818 (W--2059692); E. L. Little 7929 (N, N). Méta: Cuatrecasas 4698 (W--1773530). Tolima: García y Barriga 8310 (W--1774152); Goudot s.n. [Ibagué] (P); Lehmann B.T.1108 (V). Valle del Cauca: Cuatrecasas 23982 (F--1341683).

CORNUTIA PUBESCENS Gaertn. f.

Additional synonymy: Cornutia cajenensis Schau. ex Moldenke, Prelim. Alph. List Invalid Names 23, in syn. 1940.

Literature: Gaertn. f., Fruct. 3: pl. 213. 1807; Steud., Nom. Bot., ed. 1, 228 (1821) and ed. 2, 1: 422. 1840; Bocq., Adansonia 3: [Rev. Verbenac.] 137, pl. 12. 1863; Jacks., Ind. Kew. 1: 619. 1893; Stapf, Ind. Lond. 2: 301. 1930; Moldenke in Fedde, Repert. 40: 159, 162--163, & 200--203. 1936; Moldenke, Geogr. Distrib. Avicenn. 22 & 39. 1939; Moldenke, Prelim. Alph. List Invalid Names 23. 1940; Moldenke, Alph. List Invalid Names 22. 1942; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 33, 73, & 92 (1942) and [ed. 2], 68, 160, & 184. 1949; Moldenke, Résumé 78, 218, 275, & 454. 1959.

Illustrations: Gaertn. f., Fruct. 3: pl. 213. 1807; Bocq., Adansonia 3: [Rev. Verbenac.] pl. 12. 1863.

Some herbarium specimens of this plant have been misidentified by herbarium workers as Aegiphila sp. The species is apparently closely related to C. obovata Urb. of Puerto Rico.

Additional citations: FRENCH GUIANA: Collector undesignated 356 (P), 956 (Us); Herb. Sagot s.n. (P); Leblond 280 (P); Leprieur s.n. [1838] (P, P), s.n. [1840] (Dc); Martin 38 (P); Perrottet 223 (Dc), s.n. [1820] (Dc, Dc, Dc), s.n. [1821] (P). CULTIVATED: French Guiana: Sagot s.n. [Jardin de Baduet, 1859] (P).

CORNUTIA PYRAMIDATA L.

Additional and corrected synonymy: Cornutia pyramidata Willd. ex A. Dietr. in Willd., Sp. Pl. 1: 253. 1831 [not C. pyramidata Ait., 1789, nor Spreng., 1825]. Aegiphila acutangula Widgren ex Moldenke, Brittonia 1: 471, in syn. 1934. Calychirichibou carinaeorum Surian. ex Moldenke, Prelim. Alph. List Invalid Names 14, in syn. 1940. Cornutia pyramidalis L. ex Moldenke, Prelim. Alph. List Invalid Names 23, in syn. 1940. Cornutia pyramidata var. tomentosa L. C. Rich. ex Moldenke, Prelim. Alph. List Invalid Names 24, in syn. 1940. Cornutia pyramidata León ex Roig, Dicc. Bot. 2: 1012. 1953.

Literature: Plum., Nov. Pl. Amer. Gen. 32, pl. 17. 1703; Vaill., Hist. Acad. Roy. Sci. (Gall.) 1722: 201. 1724; L., Hort. Cliff. 319. 1737; L., Sp. Pl., ed. 1, 628. 1753; Plum., Pl. Amer., ed. Burm., pl. 10, fig. 1. 1757; Medic., Beobacht. 112. 1783; Jacq., Hort. Schönbr. 1: 60, pl. 114. 1797; Lam., Tabl. Encycl. Méth. 3: pl. 541. 1797; Steud., Nom. Bot., ed. 1, 228 & 414.

1821; Mordant de Launay, Herb. Amat. 8: pl. 505. 1827; Willd., Sp. Pl. 1: 253. 1831; Drapiez, Herb. Amat. Fl. 8: pl. 538. 1835; Steud., Nom. Bot., ed. 2, 1: 422 & 776. 1840; Walp., Repert. 4: 80. 1844; Schau. in A. DC., Prodr. 11: 681. 1847; Griseb., Abhand. König. Gesell. Wissen. Götting. 7: 257. 1857; Jacks., Ind. Kew. 1: 619. 1893; Gerth van Wijk, Dict. Plantnames 1: 372--373 (1911) and 2: 21, 176, 178, & 185. 1916; Urb. in Fedde, Repert. Beih. 5: 60. 1920; Britton & P. Wils., Scient. Surv. Porto Rico 6: 148--149. 1925; Salvador Minist. Instrucc. Publ., Fl. Salvad. 1: pl. 82. 1926; Seymour, Host Ind. Fungi N. Am. 588--589. 1929; Stapf, Ind. Lond. 2: 301. 1930; Junell, Symb. Bot. Upsal. 4: 90 & 91, fig. 137--139. 1934; Moldenke, Brittonia 1: 471. 1934; Moldenke in Fedde, Repert. 40: 160, 183--187, & 199--205. 1936; Lundell, Carnegie Inst. Wash. Publ. 478: 75. 1937; Moldenke, Lilloa 4: 333. 1939; Moldenke, Geogr. Distrib. Avicenn. 5--8, 10, 11, & 39. 1939; Moldenke, Alph. List Common Names 1, 5, 6, 12, 22, 24, & 25. 1939; Moldenke, Carnegie Inst. Wash. Publ. 522: 204--207. 1940; Moldenke, Prelim. Alph. List Invalid Names 1, 4, 14, 23, 24, & 27. 1940; Worsdell, Ind. Lond. Suppl. 1: 256. 1941; Moldenke, Alph. List Invalid Names 1, 4, 11, 22, 26, & 27. 1942; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 25--29, 73, & 92. 1942; Moldenke, Phytologia 2: 102. 1944; Beard, Journ. N. Y. Bot. Gard. 47: 239. 1946; E. J. Salisb., Ind. Kew. Suppl. 10: 61. 1947; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 43, 46, 47, 49, 53--56, 160, & 184. 1949; Roig, Dicc. Bot. 1: 849 and 2: 1012. 1953; Alain in León & Alain, Fl. Cuba 4: 313 & 314, fig. 135. 1957; Moldenke, Résumé 51, 55, 56, 58, 60, 61, 77, 218, 228, 232, 248, 275, 276, 299, 300, 425, & 454. 1959; Moldenke, Résumé Suppl. 1: 4. 1959.

Illustrations: Plum., Nov. Pl. Amer. Gen. pl. 17. 1703; Plum., Pl. Amer., ed. Burm., pl. 10, fig. 1. 1757; Lam., Tabl. Encycl. Méth. 3: pl. 541. 1797; Mordant de Launay, Herb. Amat. 8: pl. 505 (in color). 1827; Drapiez, Herb. Amat. Fl. 8: pl. 538 (in color). 1835; Salvador Minist. Instrucc. Publ., Fl. Salvad. 1: pl. 82. 1926; Junell, Symb. Bot. Upsal. 4: fig. 137--139. 1934; Alain in León & Alain, Fl. Cuba 4: fig. 135. 1957.

Collectors describe this plant as a shrub or small tree, 2--10 m. tall; trunk about 15 cm. in diameter; bark resembling that of *Ostrya virginiana* (Mill.) K. Koch; leaves succulent, the margins sometimes all coarsely serrate on sterile shoots (e.g., Morton 4760); inflorescence conspicuous in August; corolla blue, dull-blue, or lilac; fruit blue.

The wood is used for pillar trees, and the seeds make a purple ink. The species has been collected in open pastureland underlaid with red clay, in thickets, coastal thickets, and thickets on serpentine, and common in the forest of arid zones. Egler reports it as "common in the fire-conditioned grassland-scrub mosaic north of Pte. Caracoli." Recent specimens have been collected in anthesis in February, April to August, November, and December. It is said to be rather common in the Dominican Republic.

Additional common names recorded for it are "agnanthe à fleurs

en grappe", "agnanthe à fleurs en grappes", "bois à côtelettes", "bois cac", "bois côtelet", "bois côtelet quarré", "bois de caque", "bois de savane", "bois de savanne", "bois guarri", "bois pou-poule", and "salvilla". It is worthy of note that the name "bois côtelet" is applied also to Citharexylum spinosum L., and "bois de savane" is applied also to Vitex heptaphylla A. L. Juss. Likewise, the name "fiddlewood" recorded for this species in my monograph (1936) is applied also to Citharexylum fruticosum var. brittonii Moldenke, C. fruticosum var. villosum (Jacq.) O. E. Schulz, C. spinosum L., Petitita domingensis Jacq., Vitex gaumeri Greerm., and V. umbrosa Sw., while the name "penda" is applied as well to Citharexylum caudatum L., C. fruticosum L., C. fruticosum var. subvillosum Moldenke, C. fruticosum var. villosum (Jacq.) O. E. Schulz, and C. spinosum L. The name "salvilla" is also applied to Rhytodophyllum tomentosus (L.) DC. in the Gesneriaceae.

Steudel (1840) includes Hosta latifolia H.B.K. in the synonymy of Cornutia pyramidata, while Drapiez (1835) includes C. punctata Willd. Both reductions are erroneous.

Linnaeus, in his original description of the species in the Species Plantarum, ed. 1, page 628 (1753), says:

pyramidata. 1. CORNUTIA. Hort. cliff. 319.

Cornutia flore pyramidato foliis incanis.

Plum. gen. 32.

Agnanthus viburni folio. Vaill. act. 1722, p. 273.

Habitat in Caribaeis, Campechia. †

It is to be noted that he thus bases the species on a West Indian and a Mexican specimen. I consider that the Mexican plant must be either C. pyramidata var. isthmica Moldenke or C. latifolia (H.B.K.) Moldenke. In the Linnean Herbarium in London, under genus 784, Cornutia, specimen number "1" is labeled "pyramidata" in Linnaeus' own handwriting and certainly is what we now regard as this species in its true form. According to his publication cited above, however, the actual type should be a specimen in the Hortus Cliffortianus herbarium, page 319, preserved at the British Museum. Search reveals the fact that it is not there, but there is a note stating that it was incorporated in the general herbarium of that institution, where it is also not now to be found. I am therefore assuming that it has become lost, and so am designating the specimen in the Linnean Herbarium as the logotype of the species.

Additional citations: CUBA: Oriente: Acuffa 12704 (Es, W--1881258); G. C. Bucher 1003 [Herb. Roig 7588] (Es), 10556 (Es); Mrs. G. C. Bucher 143 (N), 11765 (Es); Ekman 3425 (N); R. A. Howard 5928 (N, N, Um--47672); León 11841 (Ha), 11848 (Ha); León, Clément, & Alain 22498 (Ha, N); León, Victorin, & Alain 19763 (Ha, N, N); Marie-Victorin, Clément, & Alain 21549 (Um--42771, Um--42772), 21757 (Um--25223); Matos s.n. [León 19646] (Ha, N, N);

Victorin & Alain 21549 (Ha, N), 21757 (Ha, N). Province undetermined: C. Wright 3178 [1860—64; Herb. Sauvaille 1782] (Hv, Hv, P). JAMAICA: Tussac s.n. [1807; Herb. Jussieu 5079] (P). HISPANIOLA: Dominican Republic: Abbott 1452 (B), 2558 (B); Bertero s.n. [S. Domingo] (Dc); Eggers 1538 (P, Vu); Ekman H.10893 (B, Ca—608040, N), H.12464 (B, F—839501, Mi); Fuertes 102 (Ed, Lu, P); Howard & Howard 9909 (N); Rob. Schomburgk 126 (P). Haïti: Collector undesignated s.n. (P). PUERTO RICO: Eggers 426 [Herb. Prager 186713] (Br, Gg—31062, Mu—1710, P, Vu). LEEWARD ISLANDS: Dominica: W. H. Hodge 869 (Du—359136, Gg—310911, N, S); R. A. Howard 11749 (N); Kraus 245 (Ed); D. Taylor 19 (Oa—10485). Guadeloupe: Duss 302 (P); Quentin 33 (P); L. C. Richard s.n. [Guadeloupe] (P), s.n. [Montabo] (P), s.n. [Praedii d'un Bourda] (P); Stehlé 241 (N), 467 (S). WINDWARD ISLANDS: Grenada: P. Beard 1244 (N, S); Eggers 6296 (Mu—1711, P, Vu). Martinique: Bélanger 295 (P); Egler 39-240 (N); Hahn 580 (P), 899 (Br, Br, P, P), 899a (Br), 1066 (P), s.n. (V); Plée 3 (P); L. C. Richard s.n. [Martinique] (P); Sieber Fl. Mart. 158 (B, Br, Mu, P). St. Lucia: J. S. Beard 502 (N); P. Beard 1052 (S); Crudy s.n. (Mu—1452); Herb. Schreber s.n. (Mu—1051). St. Vincent: Morton 4760 (W—1883927); Smith & Smith 613 (Ed); L. V. Wall s.n. (V). TRINIDAD: J. H. Hart 1376 (B). WEST INDIES: Island undetermined: Herb. Adanson s.n. (P, P); Herb. Linnaeus G.784, S.1 (It—photo of logotype, Ls—logotype, N—photo of logotype, Z—photo of logotype); Ponthieu s.n. [1776] (S). SURINAM: G. F. W. Meyer s.n. [Herb. Zuccarini] (Mu—1053). CULTIVATED: Belgium: Moll s.n. (Br); Nyst s.n. (Br). LOCALITY OF COLLECTION UNDETERMINED: Herb. Baillon s.n. (P); Herb. Lamarck s.n. (P); Herb. Vaillant s.n. (P); L'Herminier s.n. (P); A. L. Richard s.n. (P). MOUNTED ILLUSTRATIONS: Lam., Tabl. Encycl. Méth. 3: pl. 541. 1797 (B, Cb).

CORNUTIA PYRAMIDATA var. ISTHMICA Moldenke

Literature: Millsp., Field Mus. Publ. Bot. 1: 316. 1896; Moldenke in Fedde, Repert. 40: 161, 187--188, 200, 201, & 203--205. 1936; Lundell, Carnegie Inst. Wash. Bull. 478: 75, 111, 113, 138, & 183. 1937; Moldenke, Geogr. Distrib. Avicenn. 14 & 15. 1939; Moldenke, Alph. List Common Names 18 & 24. 1939; Moldenke, Suppl. List Common Names 13 & 16. 1940; Moldenke, Carnegie Inst. Wash. Publ. 522: 206--207. 1940; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 16, 20, 21, & 92. 1942; Moldenke, Phytologia 2: 102. 1944; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 29, 35, 36, & 184. 1949; Moldenke, Résumé 35, 41, 43, & 454. 1959.

Lundell (1937) cites Cook & Martin 128 as "Cornutia pyramidata L. (?)" and records the vernacular name "latche". He also states that var. isthmica is a large shrub found in marginal forests and the central zone of drained sinkholes or "zukches" in El Petén. The "Cornutia pyramidata" recorded by Millspaugh (1896) is actually C. latifolia (H.B.K.) Moldenke. The true C. pyramidata is

confined to the West Indies. Its var. isthmica and C. latifolia are very similar in appearance. Since they also have practically the same geographic distribution, it is questionable whether they are actually distinct from each other. The entire young inflorescences are often quite blue in both -- a condition, however, which is seen in all the northern species of the genus. Lundell 433 was originally distributed as C. pyramidata while his no. 3450 was identified as C. grandifolia (Schlecht. & Cham.) Schau. Additional common names recorded for var. isthmica are "pangage" and "x oltexmuc". A complete description of the variety is found in Carnegie Inst. Wash. Publ. 522: 206 (1940).

Additional citations: MEXICO: Campeche: C. L. Lundell 852 (Du--237579). Tabasco: J. N. Rovirosa 227 (Pa). GUATEMALA: El Petén: C. L. Lundell 3450 (Me, S). BRITISH HONDURAS: C. L. Lundell 433 (Cp, Du--193366, Us).

CORNUTIA THYRSOIDEA Banks & Moldenke

Synonymy: Cornutia thyrsoides Banks ex Moldenke, Alph. List Invalid Names Suppl. 1: 8, in syn. 1947. Cornutia thyrsoides Banks & Moldenke, in herb.

Literature: Moldenke in Fedde, Repert. 40: 160, 193--195, & 200--205. 1936; Moldenke, Geogr. Distrib. Avicenn. 6 & 39. 1939; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 1], 25, 73, & 92. 1942; E. J. Salisb., Ind. Kew. Suppl. 10: 61. 1947; Moldenke, Alph. List Invalid Names Suppl. 1: 8. 1947; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 46, 160, & 184. 1949; Moldenke, Résumé 55, 218, 276, & 454. 1959.

The inflorescence is mostly not leafy, the corolla sometimes bluish-purple, and the ovary verruculose, 1--1.8 mm. long and wide.

This plant has been misidentified in herbaria as Citharexylon berterii Spreng., and has been collected in anthesis in April.

Additional citations: JAMAICA: W. Harris 5199 (Bg); Sangster 563 (N); Tussac s.n. [1807] (Dc); W. Wright s.n. [Jamaica] (Ed); Wullschlgel 1386 (Mu--1126).

ADDITIONAL NOTES ON THE GENUS PETITIA. I

Harold N. Moldenke

Considerable information has come to light and many additional specimens have come to hand since the publication of my monograph of this genus in 1937. Full explanation of the abbreviations employed herein for the names of the 255 herbaria whose material was examined, in whole or in part, will be found in Phytologia 5: 154-